



# **Fire Weather Annual Report for 2010**

Great Falls, Montana Weather Forecast Office

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## **Weather Summary**

The winter of 2010 was notable with many locations seeing the highest number of days with snow cover in over 15 years. An El Nino pattern influenced the areas weather through much of the winter before weakening in the spring months. This brought relatively warm and dry conditions through February with a transition to cooler and wetter than average conditions during the spring months. Several wind events occurred in late March and early April, prior to green-up and during a period of low humidity, prompting the issuance of Red Flag Watches/Warnings. Cooler and wetter than average conditions persisted through late spring with April ranking among the wettest on record across much of central Montana. Several strong and moist spring storm systems brought heavy precipitation to the region through the late spring period with mountain snowpack peaking about a month later than average (in mid-late May) and at near record levels in some areas. The trend of cooler than average temperatures that began during the spring months continued into July with periods of thunderstorm activity bringing wetting rains. Temperatures and precipitation were more variable in August with a period of dry and warmer than average conditions occurring near the end of the month. The warm and dry period ended with the passage of a strong cold front which was preceded and accompanied by Red Flag Events. A cool and unsettled period followed the passage of the cold front through the first half of September with the first snows of the season falling across the higher mountains. A warmer and drier weather pattern influenced the region from the end of September into the first part of November with record warmth occurring at many places in central Montana during the first few days of October. A much colder and wetter weather pattern influenced the region from the second half of November through December. Some of the coldest temperatures of 2010 occurred in late November with several snowstorms occurring during the period, making the November/December period one of the snowiest starts to the winter season on record.

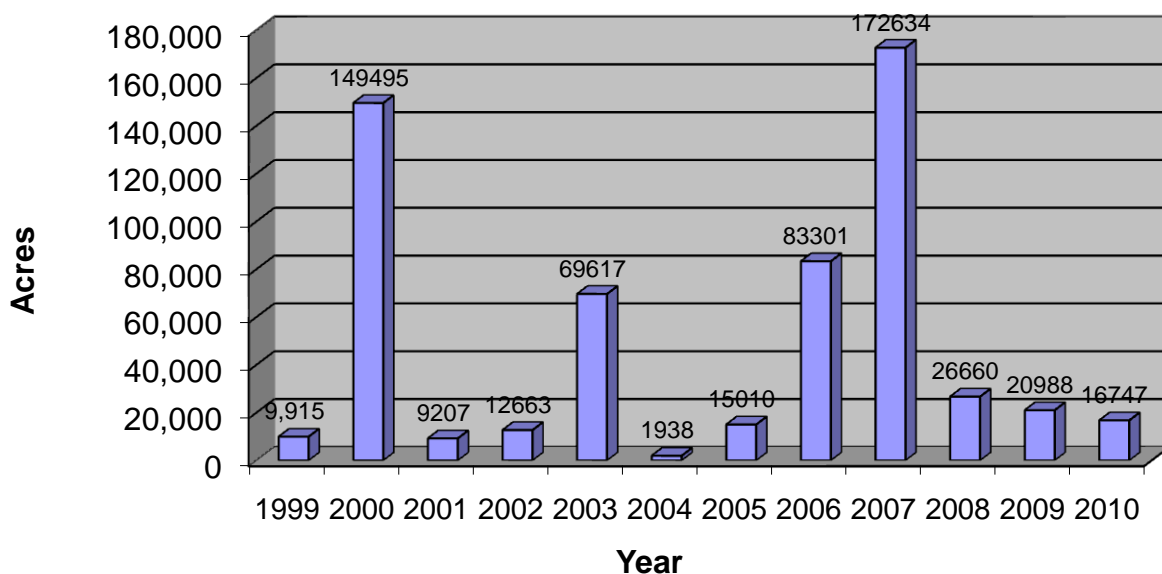
## **Fire Activity**

Fire activity was well below average for the third year in a row across the Great Falls Fire Weather Area. Red Flag events were mainly clustered around wind events prior to spring green-up and around a period of warmer and drier weather in late August preceding a strong cold front. The wet conditions and continued accrual of mountain snowpack into the late spring months followed by continued cooler than average temps and near to above average precipitation through much of July slowed the curing of fine fuels with many areas remaining unusually “green” through much of the summer. Fuels status information indicated that fuels never reached critical levels across most of the area with some exceptions due to localized fuel conditions. Fire Danger Ratings also generally remained in the low to moderate category for much of the summer months with only a few occasions where High or Very High values were reached. Six large wildfires (>100 acres) occurred in the TFX Fire Weather Area with the two largest ones occurring within the Helena Dispatch area. The Lakeside Fire started July 16<sup>th</sup> and was declared out on July 19<sup>th</sup> after burning 855 acres. The Lakeside fire burned mostly on private land with additional damage occurring to some homes after the fire due to debris flows following heavy rainfall. The Davis Fire originated from an escaped prescribed burn on August 26<sup>th</sup> and was declared out September 1<sup>st</sup> after burning 2,015 acres. This fire impacted both public and private land and was managed by a Type II Incident Management Team. The Davis Fire was the costliest fire of 2010 in the TFX Fire Weather Area and the entire Northern Rockies Geographic area at an estimated \$2.2 million.

## **Fire Activity (cont.)**

Agency	Unit	Wildfire Acres Burned
Bureau of Indian Affairs	Blackfeet Agency	275
	Ft. Belknap Agency	893
	Rocky Boy's Agency	42
BLM	*Lewistown Field Office	7549
US Fish and Wildlife	Benton Lake NWR	1
Private	Great Falls Dispatch	0
	Helena Dispatch	866
	Lewistown Dispatch	3374
State	Central Land Office	114
USDA Forest Service	Helena NF	1622
	Lewis and Clark NF	1
	Total	16747
*some acreage in these units may fall in the Glasgow WFO Fire Weather Area		

## **Acres Burned in the Great Falls(TFX) Fire Weather Forecast Area**



Data compiled from Northern Rockies GACC yearly summaries by unit.

## **Outreach and Liaison Activities**

Fire weather outreach activities continue to be busy for the Great Falls Forecast Office. Weekly fire restrictions conference calls with various county, state and federal customers in central and eastern Montana started in June and continued through September. These conference calls focused on determining fire restrictions for the upcoming week. Pre-season meetings were held with all major land management agencies in the forecast area. The TFX office provided course instructors for the fire weather units of two S-290 classes.

## Spot Forecasts

Type of Spot	Number of Spots	Average Turnaround Time
Prescription	172	23.6
Wildfire	42	23.8
Wildfire Use	0	
Search and Rescue	16	15.5
Hazmat	0	
Training/Test	0	
Total	230	23.1

## Red Flag Warning Verification Statistics

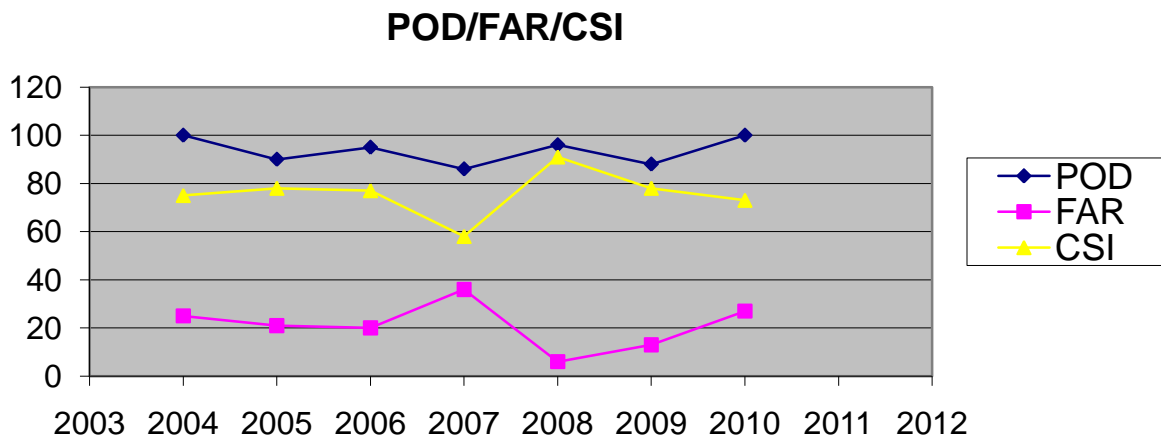
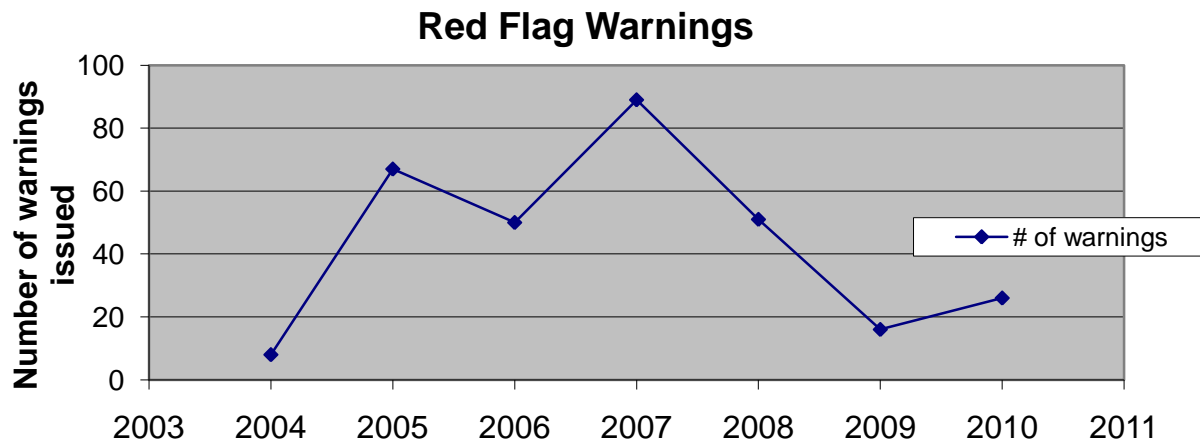
2010 Red Flag Warning Totals			
Total # of Warnings	26	POD	1.00
Total # of Events	19	FAR	0.27
Verified Warnings	19	CSI	0.73
Missed Warnings	0	ALT (Min)	1369.95
Unverified Warnings	7	ALT (Hrs)	22.83
Watches issued	7	Total Min	26029
Verified Watches	7		
Warnings Preceded by Watches	7		

2010 Red Flag Warning Synoptic Totals			
Total # of Warnings	26	POD	1.00
Total # of Events	19	FAR	0.27
Verified Warnings	19	CSI	0.73
Missed Warnings	0	ALT (Min)	1291.89
Unverified Warnings	7	ALT (Hrs)	21.53
Watches Issued	7	Total Min	24546
Warnings Preceded by Watches	7		

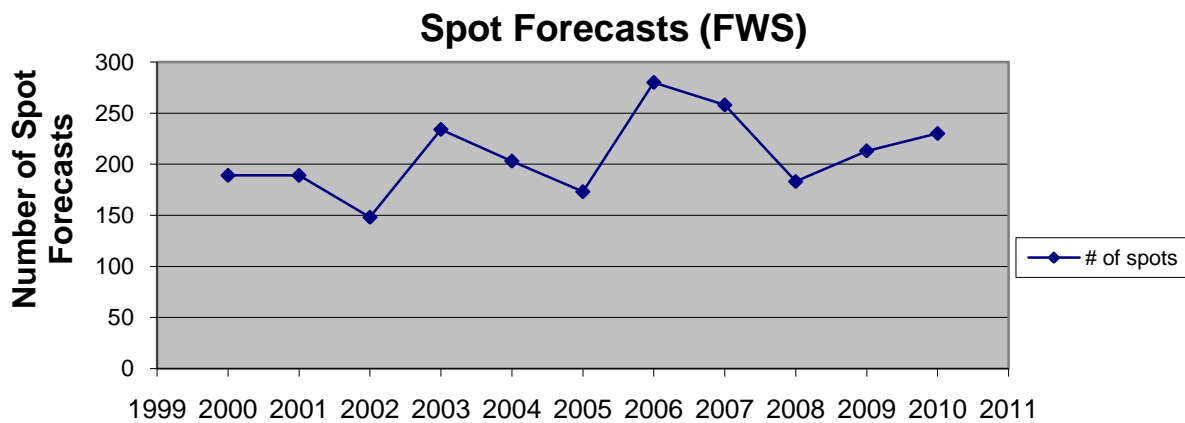
2010 Red Flag Warning Dry T-Storm Totals			
Total # of Warnings	0	POD	NA
Total # of Events	0	FAR	NA
Verified Warnings	0	CSI	NA
Missed Warnings	0	ALT (Min)	NA
Unverified Warnings	0	ALT (Hrs)	NA
Watches Issued	0	Total Min	0
Warnings Preceded by Watches	0		

Note: There were no Dry Thunderstorm Red Flag Events/Watches/Warnings in 2010

## Trends



POD (Probability of Detection), FAR (False Alarm Ratio), CSI (Critical Success Index)



## **I-MET Dispatches**

Brian Waranauskas (trainee) was dispatched to the View Lake Complex in Oregon on August 28<sup>th</sup>, returning September 5<sup>th</sup>. This was his first training assignment.

No IMET dispatches occurred within the Great Falls FWA in 2010.

## **Training/Liaison/Outreach**

S290 Blackfeet Fire Management Organization – 3/25/2010 Instructed by Jon Suk

IMET Workshop.

NWS (Boise, MT)

03/21/10-03/26/10

Bob Hoenisch/Brian Waranauskas (T)

Introduction to the CAMEO Suite – Hoenisch/Waranauskas/Suk

ICS300 – Jon Suk

Central MT Fire Zone Preseason Fire Meeting

BLM, dispatchers and cooperating USFS districts (Lewistown, MT)

03/30/09

Fire Weather Customer Meeting with the Lewis & Clark Forest Service

BLM, USFS, and Various County Representatives (Great Falls, MT)

6/24/10 -Bob Hoenisch

Fire Weather refresher presentation given to WFO staff

06/2010 - Bob Hoenisch

Northern Rockies Fire Weather Technical Meeting.

NWS (Missoula, MT)

11/09/10 - Bob Hoenisch